

- 16 -

**Claims:**

1. A wireless transmitter comprising

- an antenna;
- a transmitter signal generator unit generating a signal  
5 to be transmitted at an output and having a control  
input, a control signal applied to said control input  
controlling at least one of frequency band, wherein at  
least one carrier frequency of said signal to be  
transmitted resides, and of power of said signal to be  
10 transmitted;
- said output of said generator unit being connected to  
said antenna;
- an audio signal to control signal decoder unit  
generating a control signal at an output in response to  
15 an encoded audio signal at its input;
- said output of said decoder unit being operationally  
connected to said control input of said generator unit.

2. The transmitter according to claim 1, said input of  
said decoder unit being operationally connected to at least  
20 one audio signal input tab of said wireless transmitter.

3. The transmitter of claim 2, said input tab being  
connectable to at least one external audio signal source.

4. The transmitter of claim 3, wherein said audio signal  
source is at least one of

- 25 • a microphone;

- 17 -

- an audio player as an MP3 player, a CD player, a tape player, a DVD player;
- an internet connection device.

5 5. The transmitter of one of claims 1 to 4, said  
generator unit comprising a modulator unit with a carrier  
frequency signal input and an output being operationally  
connected to said output of said generator unit and having  
a modulation input, said modulation input being  
operationally connected to said input for said encoded  
10 audio signal.

15 6. The transmitter of one of claims 1 to 5, said  
generator unit generating said signal to be transmitted as  
an amplitude-modulated signal, a frequency-modulated  
signal, a phase-modulated signal or a modulated pulse  
signal.

7. The transmitter of one of claims 1 to 6, further  
comprising at least one microphone, the output thereof  
being operationally connected to said input of said decoder  
unit.

20 8. The transmitter of one of claims 1 to 7, wherein said  
encoded audio signal is a dual-tone multi-frequency signal.

25 9. The transmitter of one of claims 1 to 8, wherein said  
audio signal to control signal decoder receives an encoded  
audio signal in a frequency range of 100 Hz to 20 kHz (both  
limits included).

10. The transmitter of one of claims 1 to 9, wherein said  
frequency band comprises more than one carrier frequency of  
said signal to be transmitted.

- 18 -

11. The transmitter of claim 10, further comprising a manually operable selection unit with an output operationally connected to a control input of a carrier frequency generator unit, said control input controlling selection of the carrier frequency of said signal to be transmitted, out of said more than one carrier frequencies.

12. The transmitter of one of claims 1 to 11, said encoded audio signal defining more than one carrier frequency in at least one of said frequency bands.

13. A hearing system comprising

- an ear device with an output electrical to mechanical converter and with a wireless receiver, the output thereof being operationally connected to said electrical to mechanical converter;
- a wireless transmitter according to one of the claims 1 to 12, a signal transmitted from said wireless transmitter being received and demodulated at said ear device and acting on said electrical to mechanical converter.

14. An audio signal carrier comprising a multitude of encoded audio files.